

Understanding ASSESSMENT IN PRIMARY EDUCATION

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CHAPTER 1

INTRODUCTION TO THE PRINCIPLES OF ASSESSMENT

Chapter Objectives

- 1 To understand the purpose of assessment
- 2 To understand the differences between formative and summative assessment and their relative uses
- 3 To understand the many different formats of assessment



In the late 20th century, the aim of the Assessment Reform Group was to ensure that assessment policy and practice took account of relevant research evidence. It published well-known booklets such as *Inside the Black Box* (Black and Wiliam, 1998); *Working Inside the Black Box* (Black et al., 2002) and *Assessment for Learning: Putting It Into Practice* (Black and Wiliam, 2002), all designed to enhance assessment practices in the primary classroom. But despite many research articles and much government documentation since this time, such as Excellence and Enjoyment in the Primary School (2003) and the Primary National Strategy (2011), the National Student and Newly



Qualified Teacher Surveys indicate that assessment is a consistent concern for many trainee teachers and early practitioners in primary schools.

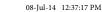
The word *assessment* is often associated with anxiety, fear and formality, as generations of pupils have been subjected to an increasing amount of public examinations. Pupils are tested, schools are inspected and teachers are appraised in a highly accountable education system. Therefore, with a system with an increasing focus on testing and accountability, it is important for primary educators to understand why assessment is important and how best to assess pupils. This book is not an instruction manual but seeks to suggest a variety of ways in which primary pupils can be assessed.

Assessment in primary school is essentially concerned with gathering evidence about what pupils can do, know or understand. It would be easy if there were one assessment that you could administer at some point in primary school that provided all the information needed on pupils' progress, but pupils' knowledge, skills and understanding can be assessed through a range of formal or informal assessments initiated by you as the teacher, or, alternatively, pupils can assess themselves and their peers. In fact, pupils' knowledge and understanding of factual information, theories, concepts and ideas; their mental and physical ability; their attitudes and beliefs about learning, people and society; their behaviour in social relationships, their personal integrity, their fulfilment of their potential and their perseverance and willingness to solve problems are continually assessed in the classroom almost instinctively. This is a skill that develops the more experienced you become as a teacher and is useful for planning activities that will result in pupils' optimum learning.

Additionally, there is a range of statutory assessments for primary pupils, such as the Early Years Foundation Stage Profile (EYFSP) for pupils aged 5, Reading by Six and Key Stage 1 and 2 Standard Attainment Tests (SATs) for pupils aged 7 and 11 respectively. Apart from the Key Stage 2 SATs for pupils aged 11, all tests are marked, analysed and interpreted by teachers. It is therefore important for teachers to be able to use the data produced from such tests to inform the future planning of lesson content.

Assessment can be divided into two broad categories: summative and formative. Both have their purposes and both are important for different reasons. It is also possible to use summative assessments formatively so that pupils' learning may improve from all types of assessment.







Summative assessment

Summative assessment, as it sounds, provides a summary record of a pupil's learning at one point in time. Typically, summative assessments are statutory and the results are disseminated to parents, the local authority and governors or, in the case of the Key Stage 2 SATs, reported nationally and placed in national league tables. Summative results are important throughout a pupil's schooling as they provide parents, teachers, the local authority, the government and the public with an indication of what has been learned and how pupils in one school compare with pupils in other schools. Indeed, without summative assessments how would employers know whether they should take on a pupil to train as a doctor, an engineer or a teacher? Summative tests are also used in some areas of the country to decide the school to which a pupil will transfer at the age of 11. These may be 11+ or entrance exams to assess if a pupil is deemed suitable for that particular primary or secondary school. Primary schools may also administer their own end of topic or end of year tests to assess the learning of pupils.

Many statutory or summative tests are norm-referenced where the time is limited and there is a set content. They can be administered at the end of a unit of work, at the end of a year or at the end of a key stage such as the SATs (for pupils aged 7 and 11) and the EYFSP (for pupils aged 5).

The National Curriculum for ages 5 to 16, first introduced in the 1988 Education Reform Act, brought with it statutory assessment. There have been several changes to National Curriculum tests, most recently in 2012. For early years pupils, statutory curriculum and testing were introduced in the Children's Act 2006 with the EYFS. It became statutory in 2008 and is applicable to pupils from birth to 5 in all pre-schools, nurseries and childcare centres. It is summatively assessed using the EYFSP when pupils are aged 5. The EYFSP, along with the most recent addition to the statutory assessment of pupils in the early years, Reading by Six, will be further explored in Chapter 3.

Formative assessment

Formative assessment is concerned with assessment that identifies where pupils are in their learning, where they need or want to be and how best to bridge that gap (Black and Wiliam, 1998; Cowie and Bell, 1999;









Assessment Reform Group, 2002b). It was first promoted by the Assessment Reform Group which was commissioned in 1990 to gather research evidence on which types of assessment work best. It can include ongoing, almost subconscious, judgements or more formal assessments and is a cyclical process of assessment, evaluation and feedback with suggestions on how pupils can improve. The Primary National Strategy introduced in 2004 promoted the use of formative strategies to enhance the learning of pupils. This was based on various reports, notably those from Black and colleagues (Black and Wiliam, 1998, 2002; Black et al., 2002, 2003a) and the Assessment Reform Group (2002b), and is evidenced in books by Clarke (1998, 2001, 2005a, 2005b, 2008), Gardner (2006) and Pardoe (2009). It includes strategies such as *think-pair-share* and *wait time* – approaches to assessing learning which are explored further in Chapter 5.

Assessment may also be formal or informal. For example, if the government wishes to elicit whether primary pupils' ability to write effectively in a range of genres has improved, a formal test is more practical. However, should a teacher wish to know if pupils understand the safety regulations before handling tools in technology, the assessment would be informal although no less important.

Formal assessment is often more structured, planned and organised. It involves statutory exams or in-school tests which require the assessment to be executed on a particular day in a particular way and within a set timescale. It does not need to be unpleasant, unfriendly or intimidating and can be executed through a range of different kinds of assessments, as evidenced throughout this book. It is merely governed by a set of rules rather than being spontaneous (Wragg, 2001).

In most primary classrooms, assessment is informal and almost continuous throughout the day. As a teacher, you will continually assess whether pupils have understood knowledge, concepts, health and safety regulations and how to behave. You will evaluate the standard of pupils' work, replies and responses to questions or the interaction in group situations and you will then calculate when a pupil is ready to move on in their learning. Teaching is often a dialogue between you and the pupils and you are required to make split-second decisions whilst on the move (Wragg, 2001). You will be unable to reflect on decisions as time demands that you respond quickly to situations that arise in the classroom. It will be evident as you become a more experienced teacher that assessment is barely noticeable in the classroom; rather, it flows seamlessly as you are continually monitoring the situation, addressing pupils' needs and taking their learning to the next level.



The differences between formal and informal testing are clear. Teaching is a busy, demanding profession and informal, frequent assessments are invaluable for identifying where pupils are in their learning, where they need to be and how to get there. Such assessment allows for an understanding of the progress of the whole child in a range of subjects and situations. However, it is subjective and unreflective whereas more formal assessment provides opportunities to see the bigger picture, allowing for a comparison of groups of pupils within the school and against different schools, and is more objective and systematic. Formal assessment, such as multiple-choice questions, may also have other drivers unrelated to pupils' attainment and achievement, such as ease of administration, marking and analysis of the data. But formal assessments may intimidate less confident or less able pupils, affecting their performance, and can only provide a limited picture of learning across a range of subjects over a period of time.

Assessment may also be continuous coursework or a final judgement of achievement through a test or exam. In working life, it is rare to sit an exam but more likely that performance will be measured through a continual process. Continuous assessment is commonly found in secondary school when pupils are working towards a national exam. The course is modular and is assessed as each part is completed. A major concern of modular and continuously assessed work is its validity and integrity. It is open to plagiarism, from the internet and books or other people completing the work in addition to the pupil. Difficulties arise when pupils have been encouraged to seek support from members of their family but the adult does not know how to support their child without providing them with the answers. Media reports, such as *The Times* newspaper report of such abuse (Gilbert, 2012), question the reliability and trustworthiness of the testing system for the licensing of professionals such as teachers.

Within primary school, continuous assessment may take place through topic work or throughout a unit of work. Continuous assessment is thought to be advantageous to pupils who worry about final exams, although gaining repeated feedback that details their need to improve can also cause a pupil to become disheartened and therefore fail to achieve. This of course links closely with motivation and feedback. If motivation is high, then pupils will respond eagerly to suggestions for improvement; alternatively, those with low self-esteem may lose interest and motivation in the unit of study. Regular feedback can affect motivation and self-esteem positively or negatively by either detailing achievable and appropriate ways in which to improve or







focusing on what is wrong and fails to reach the expected standard. The importance of feedback is discussed further in Chapter 5.

There are arguments which suggest that final assessment is essential in motivating pupils to work towards a final target, whilst in continuous assessment it may be difficult to see the ultimate goal. Essentially, the discussion between coursework and a final assessment hinges on whether pupils respond well to extrinsic or intrinsic motivation (Wragg, 2001). Pupils who seek to improve the final mark, grade or score, regarding this as the ultimate reward, respond well to extrinsic motivation, whilst those who are concerned with the process of learning itself, with the end test result as a by-product, respond better to intrinsic motivation. Research suggests that extrinsic motivation is short-lived and will need to be reignited for the next task whereas intrinsic motivation self-perpetuates learning (Black and Wiliam, 1998; Black et al., 2003b; Clarke, 2001, 2005a, 2005b, 2008). At present, national tests grade pupils aged 5, 6, 7 and 11 through an end of year test, and pupils aged 16, 17 and 18 by a mixture of continuous course work using a modular system assessment and final examination. Whereas the modular system is somewhat contentious as it allows for multiple retakes of modules, it is a system of non-competitive evaluation and is preferred by pupils who may panic or be anxious at an end of course exam which assesses the learning of the whole programme of work. It could be argued, therefore, that continuous assessment with a final test at the end of the unit of work may be the best option as it satisfies both extrinsic and intrinsic motivation for learning.

It is not always essential that assessments are written or that they focus on the achievement of the individual. Assessments may be oral, written or practical and conducted with individuals or groups of pupils. Of course, some assessments fall naturally into one bracket or another such as art and design, musical or physical assessments. It would be difficult to assess if a pupil were able to play a tune on a flute or perform a back somersault on a trampoline through a written test. Similarly, asking a pupil in the early years to write about their favourite animal would be meaningless as they will not yet have the skills to do this effectively. Alternatively, if the assessment was to ascertain if a pupil could use a range of connections in their writing, this would be difficult to assess through a practical or oral test. Therefore, the subject, the purpose of the assessment, the time limit available, the age of the pupil, the knowledge or skill to be assessed, all need to be considered in deciding which type of assessment will provide the best indication of the pupil's progress.





Often, the type of assessment chosen is decided by the need for evidence to be gathered. If a teacher needs verification that a pupil has achieved a level or skill, then the assessment tends to be written although this need not be lengthy prose but could be a drawing, multiple choice, cloze passages or text on a computer. This may allow pupils to complete the assessment in their own time, although this will depend on the purpose of the assessment. Assessment of course can be done orally but the time taken for each pupil to sit with you as the teacher makes it more appropriate for a written account to be completed. If it is informal and immediate, then it tends to be oral although early years practitioners are expert in the use of observation and recording of evidence to demonstrate a pupil's learning.

Practical tests can be used for different reasons such as offering an alternative way for pupils with speech and communication difficulty, for example, to highlight their understanding. It is also a useful strategy for demonstrating skills such as those in technology, science, music, art and drama. In many cases, practical activities can assess whether the pupil is knowledgeable and can apply the skills operationally. It is also important for you when assessing practical skills to ensure that pupils do not fail to observe vital evidence in their recording of the activity. It is a good idea to plan the observation and reflect on the evidence to ensure it is a true representation of pupils' abilities.

Whether practical, oral or written tests are used, it is inevitable that some pupils will be advantaged over others. The proficient, lucid writer may favour a written test whilst a skilful orator may prefer an oral exam and a pragmatic pupil may wish to engage in a practical test. It is for this reason that it is important to vary the types of assessment throughout the curriculum. Once again, the value of all assessments is in the feedback provided for pupils allowing them to progress in their learning. In all assessments, it is important for you to decide what is to be assessed and recorded, how it will be assessed, the way in which the outcomes of written, oral and practical skills can be moderated and how the results will be fed back to pupils to enhance their learning (Wragg, 2001).

Most formal assessment is individual as it builds up a profile of each pupil in order that judgements can be made at certain times of the pupil's schooling - for example, in order to decide which primary or secondary school to attend, which group or set is best to enhance pupils' learning, what to feed back to parents at parents' evenings. At other times, pupils' work is assessed as a group, such as with a drama performance, a debate, school sports day, a dance performance, science or technology experiments and a group project such as a traffic survey









or a report on different aspects of Tudor life. Group assessment may provide you with a difficulty in that there is a dilemma in whether to offer individual marks with which the pupils may disagree or a group grade in which there may have been pupils who worked harder or provided more of the information than others. One solution may be to offer to comment and feed back only on the group dynamics, the way in which pupils worked as a team, the way in which all played a different but important part, with the content and outcome as secondary. Alternatively, pupils may be asked to self- or peer-assess the group activity or performance which hands the responsibility of assessment to the pupils themselves. The type, form and who to assess of course depends on the objectives set for the activity, which should be clearly expressed to pupils prior to beginning the project. Although group work is difficult to assess, it is good grounding for later life and should be practised in primary school, as in adulthood many situations require people to work in teams and groups.

It is also useful for assessments to provide a diagnosis of achievements and areas for development, and therefore it is possible to conduct a diagnostic test or use the data of a previous test to provide information for future teaching sessions. Diagnostic tests, as they suggest, identify strengths and weaknesses in pupils' learning and are commonplace in life, such as driving tests to ascertain competency at driving, blood tests that assess infection, eye exams that test sight and cholesterol tests to see how much fat is contained in the blood. Within education, there are tests for pupils with physical and behavioural disabilities, for pupils with specific learning difficulties and for those with speech, visual or hearing impairment.

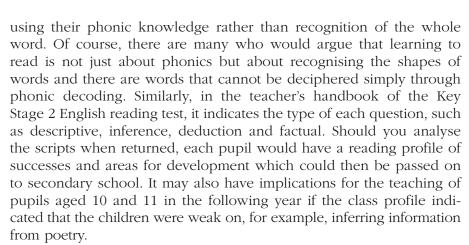
But within the normal classroom there are ways in which assessments can be used diagnostically so that the strengths and development needs of pupils are highlighted. At the basic level, every assessment, including marking pupils' work, should include areas of success and ways to improve. This, at a day-to-day level, is formative assessment which is diagnostic.

At a summative level, it seems at first glance that it would be difficult to use this data as diagnostic. However, all assessment has the potential to offer rich information on what was done well and what areas need addressing. For example, the Reading by Six phonic assessments can provide you with valuable information on the ability of pupils to blend, segment, encode and decode words, provided you analyse the results. Even the 20 nonsense words provide an indication as to whether pupils can apply the phonic knowledge they have to new unidentified words. The nonsense words ensure that pupils are









Diagnostic assessments are useful for measuring the progress of individuals and classes, identifying areas of misunderstanding or lack of mastery of a skill, analysing errors in reading such as miscue analysis or evaluating the readiness of a pupil, group of pupils or the class to move on to more challenging activities. Diagnostic tests tend to be either norm referenced or criterion referenced.

Norm-referenced diagnostic tests tend to place the pupil on a scale against all other pupils of the same age and focus on the overall mark of a set task. Criterion-referenced diagnostic tests analyse the different components of the assessment and construct a personal profile of the topic, highlighting which aspects of the test have been understood and which need revisiting. Therefore, norm-referenced tests offer an overall figure for comparison across pupils, classes, year groups and schools. Criterion-referenced tests drill down into the profile of each pupil to identify strengths and weaknesses. One of the criticisms of diagnostic testing is that the focus is on areas of weakness rather than on achievements and that sometimes the individual components are lost within the whole. For example, in a reading test, comprehension, fluidity, word recognition, intonation, prediction, phonic knowledge and awareness of punctuation may all be assessed although this would be impossible within one test. Therefore, diagnostic tests need to be specific. Focus on weakness can also be avoided by applying the 3:2 or 2:1 rule. That is, offer three positive points and two areas for development (or two positive points and one area for development) or any combination where the number of positive points outweighs the areas of weakness. This is sometimes referred to as stars and a wish - for example, three stars and a wish would mean that three areas of success are highlighted along with one area that needs to be developed.









Validity of assessments

Within all assignments, it is important to consider the validity and reliability of the activity so that it can offer data that is accurate and trustworthy. Validity ensures that the test measures what it sets out to do. As a teacher, you need to have a clear understanding of what is expected of the test. For example, if it is to write up a scientific experiment and the teacher reports on the spelling and sentence structure then that test is invalid. Wragg (2001) suggests that there are four types of validity in assessment: face validity, content validity, concurrent validity and predictive validity.

Face validity is concerned with the face value of assessments and is particularly evident in written questions. The question may be a mathematical computation or knowledge of geographical or historical facts but if written it assumes the pupil has a general understanding of language and what language means. For example, if the questions were – How many wives had Henry VIII? How long was he king? Who succeeded him to the throne? – this is testing not only historical knowledge but language skills (VIII; succeeded) and quite advanced mathematical skills, subtracting 21 April 1509 when Henry came to the throne from 28 January 1547 when he died. Combinations of assessments are fine to use as long as there has been a consideration of the face validity in the design of the questions. Ensure the assessment tests what it intends to test and does not penalise any pupil because of the language or other skills required to answer the focus question.

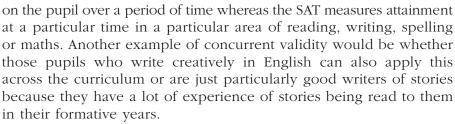
Content validity requires the assessment to reflect the content of the unit of work being taught. Therefore, the assessment should reflect what has been taught and the time spent on that area. For example, if for two thirds of the term there has been a focus on place value and a third on adding and subtracting decimals, then the assessment task should reflect the same weighting of two thirds/one third. Whereas face value looks at the way in which specific questions are expressed, content validity considers the appropriateness of the weighting of each question depending on the prior teaching.

Concurrent validity refers to the way in which different ways of assessing a pupil give the same result. For example, when explaining the life cycle of a frog, pupils may draw a picture, write an account, explain orally or design a flow chart. All should indicate the same result. It is also evident with the SATs for pupils aged 7 and 11, where you should find that your assessment indicates a similar result to that indicated by the test. Of course, there will be slight variations in this as the teacher often bases their assessment









Predictive validity is concerned with assessments that predict the future course of the pupil. This may be to determine which class, set or group the pupil should be in, who should take the lead role in the Christmas play or be selected for the swimming team. You will need to learn to predict the future and select pupils for the most appropriate activity. Predictive validity is best the closer it is to the time and subject matter of the area being tested; pupils should not be labelled early on in their schooling as slow early development is not necessarily a predictor of how the pupil will perform in five, six or ten years' time.

Assessment validity (Johnson, 2012) measures how well the assessment quantifies what it is intended to evaluate. It is concerned with how personal preferences, knowledge, skills and understanding impact on the assessment type used and on the criteria applied in the assessment of pupils' responses. Therefore, the task set and the marking and evaluation of pupils' work must relate to the learning objectives of the lesson.

Reliability of assessment

Reliability ensures that responses are consistent whenever an activity is marked by the same person. But unless the assessment has validity there is little point in considering its reliability. As you will read in Chapter 2, governments seem to focus on the reliability of test results whereas teachers focus on their validity. For example, it is possible, when marking, that on the last ten scripts of the third set of 30 books the teacher may lose a little concentration and mark more erratically than on the first 10 books of the first set of 30. This renders the task unreliable. Similarly, it is possible that marking the same script two days apart may result in different feedback. This is why moderation of work is important across classes, year groups, key stages and the school. It is not to catch teachers out but to ensure pupils have the fairest feedback so that they can progress in their learning. Assessment reliability (Johnson, 2011) is concerned with consistency in that if the original tools for







assessment were changed then the same results would emerge. Having said that, it is difficult in some cases to assess pupils' skills and attitudes and it may only be possible to be certain of the results of these when several assessments have been completed.

It is fruitless if the tests are valid and reliable but the subject is irrelevant, dull or boring. It is important therefore to decipher what is worth assessing and recording, to match assessment to purpose and to consider what is feasible in the time and with the resources available.

Finally, the focus of UK governments in the twenty-first century has been on accountability, which requires the school's assessment results to be published in the school prospectus and reports to be sent out to parents, governing bodies, local authorities and the school inspection body, the Office for Standards in Education (Ofsted). Key Stage 2 SATs for pupils aged 11 are also published in league tables and reported in the media. When Ofsted inspectors visit a school, assessment processes, amongst other things, become the focus. The school needs to provide evidence that all pupils, including those with SEN, are progressing at or above the expected rate. Up until 2012, Ofsted inspectors would evaluate value-added scores to ascertain whether all pupils were progressing in their learning. Value-added measures the achievement made from the starting point of entry to school, usually at age 4 or 5, to where the pupil is at the point of inspection. Since 2012, value-added has been removed and the data reports on attainment only. There is no account taken of first language spoken, social and economic deprivation, the number of books in the home or the level of parental support; it is raw data. Assessment may also lead to a self-fulfilling prophecy in that if pupils believe they continually perform below what is expected then they may choose not to engage with the learning for fear of further failure. This, if not remedied, can lead to the pupil being labelled and stereotyped as a reluctant learner. All assessments have outcomes and it is your role to ensure there are neither too many nor too few assessments, adversely affecting pupils in your class. Each assessment should have clear aims and objectives which identify what is to be assessed, how it is to be assessed and the expected outcome of the assessment. Assessment and feedback should be focused on the objectives rather than on the neatness, behaviour or attentiveness to detail of the pupil. It is important to remember that assessments can only test the pupil's knowledge, skills or understanding and therefore the objectives of the assessment are limited. The more focused the assessment is, the more valid and reliable it will be in offering accurate data on each pupil's progress.









Points for Reflection

- Why do we assess pupils?
- What is the difference between formative and summative assessment?
- What is the importance of appropriateness, validity and reliability of
- What different types of assessment do you carry out now? Which will you try out?



Further Reading

The following books and articles will enhance your knowledge and understanding of statutory and non-statutory assessments:

Harlen, W. and Gardner, J. (2006) On the Relationship Between Assessment for Formative and Summative Purposes. London: SAGE.

Leung, C. and Mohan, B. (2004) Teacher Formative Assessment and Talk in Classroom Contexts: Assessment as Discourse and Assessment of Discourse. London: SAGE.

Tarras, M. (2005) 'Assessment – Summative and Formative – Some Theoretical Reflections', British Journal of Educational Studies, 53(4): 466–78.

Torrance, H. and Pryor, J. (2001) 'Developing Formative Assessment in the Classroom: Using Action Research to Explore and Modify Theory', British Educational Research Journal, 27(5): 615–31.

Wiliam, D. (2006) 'Formative Assessment: Getting the Focus Right', Educational Assessment, 11(3–4): 283–9.



